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10/091,353	03/06/2002	Geun Soo Lim	K-0394	7255

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EXAMINER

NGUYEN, JIMMY H

ART UNIT PAPER NUMBER

2673

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/091,353

Applicant(s)

LIM, GEUN SOO

Examiner

Jimmy H. Nguyen

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-7 and 21-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-7 and 21-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is made in response to applicant's amendment filed on 6/22/2004.

Claims 1, 3, 5-7 and 21-33 are currently pending in the application. An action follows below:

Drawings

2. Figures 3-5 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1, 3, 5-7 and 21-33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding to these claims, the disclosure, when filed, does not fairly contain information regarding to the claimed feature, "if input data signals don't exist, applying second data pulses", of independent claims 1 (see line 11) and 24 (see lines 5-6). The disclosure, specifically fig. 6 and the description, page 9, line 24 through page 10, line 19, expressly teaches that, if a data signal with a logic value "1" (i.e., input data signals exist and have a logic value "1"), first data

Art Unit: 2673

pulses are applied to the address electrode line X, and if a data signal with a logic value “0” (i.e., input data signals also exist and have a logic value “0”), the second data pulses are applied to the address electrode line X. In other words, those of ordinary skill in the art will understand that, to a certain extent, the original disclosure only teaches, if input data signals present or exist with a logic value “1”, applying first data pulses to the address electrode line X, and **if input data signals present or exist with a logic value “0”, applying second data pulses**, to the address electrode line X. As those of ordinary skill in the art will understand that “input data signals exist with a logic value “0”” is implicitly different from “input data signals don’t exist”. Accordingly, the original disclosure does not fairly convey to one of ordinary skill in the art that inventor(s) had in their possession the above underlined feature presently recited in all independent claims.

5. It is noted Applicant that due to the rejection under 35 USC 112 above, the following art rejections are based as assumed by the examiner that “input data signals exist with a logic value “0”” is the same as “input data signals don’t exist”.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 3, 5, 6, 21-29 and 31-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Yoo et al. (USPN: 6,407,510 B1), hereinafter Yoo.

Art Unit: 2673

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

As to claims above, the claimed invention reads on the Yoo reference as follows: Yoo discloses a method, for driving a plasma display panel (PDP) (best seen in fig. 2, col. 1, lines 46-50) having a plurality of discharge cells (1) formed by a plurality of scanning/sustain electrode lines (Y), a common sustain electrode line (Z) and a plurality of address electrode lines (X), comprising the steps of discharging and initializing the plurality of discharge cells (1) during a reset interval (see col. 1, lines 66-67); progressively applying scanning pulses (Vs) to the plurality of scanning/sustain electrode lines (Y) such that the scanning pulses are overlapped to each other in the region of an auxiliary scanning pulse ASP (see fig. 5), and if the input data signals present with the logic value "1 or HI", applying **first data pulses** (each first data pulse having a width of $(T_d + T_{ad})$ or a width $(T_s + T_{as})$ of the scanning pulse (Y), and a logic value "1 or HIGH", i.e., the last pulse on X_n address electrode line or the pulse indicated by a dotted circular line A on X_{n+1} electrode line, see fig. 5) and if the input data signals present with the logic value "0 or LOW", applying second data pulses (each second data pulse having a width of $(T_d - T_{ad})$ or a width $(T_s - T_{as})$ of the scanning pulse (Y), and a logic value "0", i.e., the pulse between the first MDP and the first ADP, and on X_n address electrode line, see fig. 5). As noting in fig. 5, Yoo further teaches that the scanning pulses progressively applied to the plurality of

Art Unit: 2673

scanning/sustaining electrode lines are overlapped for a preset time (T_{as}) with respect to each other. Furthermore, in the case of the PDP having m scanning/sustain electrode lines ($Y1-Ym$) (e.g., see fig. 2), the Yoo reference implicitly discloses the m scanning/sustain electrode lines ($Y1-Ym$) divided and driving into two blocks (or parts), an upper block having $m/2$ scanning/sustain electrode lines ($Y1-Y_{m/2}$) and a lower block having $m/2$ scanning/sustain electrode lines ($(Y_{m/2} + 1) - Ym$). Furthermore, the Yoo reference teaches that progressively applying scanning pulses (V_s) to the plurality of scanning/sustain electrode lines (e.g., $Y1-Ym$), starting from the first scanning/sustain electrode line ($Y1$) to the last scanning/sustain electrode line (Ym) (see figs. 4 and 5). In other words, the Yoo reference implicitly teaches a step of progressively applying scanning pulses (V_s) to the plurality of scanning/sustain electrode lines ($Y1-Y_{m/2}$) in the upper block, starting from the first scanning/sustain electrode line ($Y1$) of the upper block, to the last scanning/sustain electrode line ($Y_{m/2}$) of the upper block, and then progressively applying scanning pulses (V_s) to the plurality of scanning/sustain electrode lines ($(Y_{m/2} + 1) - Ym$) in the lower block, starting from the first scanning/sustain electrode line ($Y_{m/2} + 1$) of the lower block, to the last scanning/sustain electrode line (Ym) of the lower block. Accordingly, the steps of the claims above are read in the Yoo reference.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2673

9. Claims 1, 3, 5, 6, 23-29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kang et al. (USPN: 6,603,449 B1), hereinafter Kang, and further in view of Suzuki et al. (USPN: 6,262,699 B1), hereinafter Suzuki.

As to claims above, the claimed invention reads on the Kang reference as follows: Kang discloses a method, for driving a plasma display panel (PDP) (col. 3, line 21) having a plurality of discharge cells (pixels, col. 3, line 26) formed by a plurality of scanning/sustain electrode lines (Y electrode lines, col. 3, lines 22-23), a common sustain electrode line (X electrode lines, col. 3, lines 22-23) and a plurality of address electrode lines (A address electrode lines, col. 3, line 24), comprising a step of discharging and initializing the plurality of discharge cells during a reset process by applying reset pulses (3) and pulses (5), before address process (see fig. 5, col. 4, line 64 through col. 5, line 15); a step of progressively applying scanning pulses (scan pulses 61-68, fig. 5, col. 4, lines 63) to the plurality of scanning/sustain electrode lines (Y), and progressively applying first data pulses (data pulses 41 and 45, see fig. 5, last waveform), each first data pulse having a width, which is the same as the width of the scanning pulses (61, 66), and a first logic value, which corresponds to the input image data and is either "1" or "0", and second data pulses (data pulses 42 and 46, see fig. 5, last waveform), each second data pulse having a width, which is the less than the width of the first data pulse, and a second logic value, which corresponds to the input image data and is either "0" or "1". Further, as noting in fig. 5 and at col. 4, lines 24-31, the Kang reference implicitly discloses the 8 scanning/sustain electrode lines (Y1-Y8) divided and driving into two blocks (or parts), an upper block having 4 scanning/sustain electrode lines (Y1-Y4) and a lower block having 4 scanning/sustain electrode lines (Y5-Y8). Furthermore, the Kang reference implicitly teaches a step of progressively applying scanning pulses (61-64) to the

Art Unit: 2673

plurality of scanning/sustain electrode lines (Y1-Y4) in the upper block, starting from the first scanning/sustain electrode line (Y1) of the upper block, to the last scanning/sustain electrode line (Y4) of the upper block, and then progressively applying scanning pulses (65-68) to the plurality of scanning/sustain electrode lines (Y5-Y8) in the lower block, starting from the first scanning/sustain electrode line (Y5) of the lower block, to the last scanning/sustain electrode line (Y8) of the lower block. Kang does not disclose expressly the scanning pulses overlapped each other for a preset time period, as presently claimed. Accordingly, Kang discloses all the claimed limitations except for the scanning pulses overlapped each other for a preset time period.

However, Suzuki discloses expressly that the scanning pulses (SP) progressively applied to scanning/sustain electrode lines (Y1, Y_{k+1}) are overlapped each other for a preset time period. See figs. 4C and 4F, col. 7, lines 15-18. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to utilize the teaching in the Suzuki reference, i.e., the scanning pulses (SP) progressively applied to scanning/sustain electrode lines overlapped each other for a preset time period, in the Kang reference, because this would reduce the address write cycle, thereby providing a high image quality, as taught by Suzuki (col. 7, lines 24-28).

Double Patenting

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Art Unit: 2673

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1, 3, 5-7 and 23-31 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 31 of U.S. Patent No. 6,340,960 B1, hereinafter PAT960, in view of Kang and further in view of Suzuki.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the patent and the application are claiming common subject matter, as follows:

Regarding to claims 1, 3, 5-7 and 23-31, specifically claims 1 and 31, discloses a method for driving a PDP, comprising the step of dividing a plurality of scanning/sustain electrode lines into upper and lower blocks (or parts), and progressively applying the scanning pulses starting from the first scanning/sustain electrode line of each block (or part), (see claim 1 of the PAT960), or starting from the first scanning/sustain electrode line of the upper block and from the last scanning/sustain electrode line of the lower block (see claim 31 of the PAT960).

Accordingly, claims 1 and 31 of the PAT960 discloses all claimed the limitations, except for the features, "discharging and initializing the plurality of discharge cells" (see claim 1, line 5) and **"if input data signal exist, ... each other"** (see claim 1, last 9 lines).

However, Kang discloses step of discharging and initializing the plurality of discharge cells during a reset process by applying reset pulses (3) and pulses (5), before address process (see fig. 5, col. 4, line 64 through col. 5, line 15); and applying first data pulses (data pulses 41 and 45, see fig. 5, last waveform), each first data pulse having a width, which is the same as the width of the scanning pulses (61, 66), and a first logic value, which corresponds to the input

Art Unit: 2673

image data and is either “1” or “0”, and second data pulses (data pulses 42 and 46, see fig. 5, last waveform), each second data pulse having a width, which is less than the width of the first data pulse, and a second logic value, which corresponds to the input image data and is either “0” or “1”. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to utilize the teachings in the Kang reference, because this would allow the space charges smoothly distributed at the corresponding pixel areas, before the address process, as taught by Kang (col. 5, lines 4-7 and 12-15), and enhance the displaying uniformly and stability by preventing a phenomenon in which a display discharge does not occur at to-be-displayed pixels of a specific subfield, as taught by Kang (col. 3, lines 14-19). Further, regarding to the claimed feature, “the scanning pulses overlapped each other for a preset time period”, Suzuki discloses expressly that the scanning pulses (SP) progressively applied to scanning/sustain electrode lines ($Y1$, Y_{k+1}) are overlapped each other for a preset time period. See figs. 4C and 4F, col. 7, lines 15-18. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to utilize the teaching in the Suzuki reference, i.e., the scanning pulses (SP) progressively applied to scanning/sustain electrode lines overlapped each other for a preset time period, in the combination of PAT960 and Kang, because this would reduce the address write cycle, thereby providing a high image quality, as taught by Suzuki (col. 7, lines 24-28).

Response to Arguments

12. Applicant's argument, see page 9 of the amendment filed on 6/22/04, with respect to the drawing objection has been fully considered but it is not persuasive because the disclosure,

Art Unit: 2673

specifically page 8, lines 2-6, expressly indicates figs. 3-5 are of the related art and are not of the present invention.

13. Applicant's argument, see page 10, lines 6-8 of the amendment filed on 6/22/04, with respect to the Yoo reference, has been fully considered but it is not persuasive because as discussed in the detailed rejection above, the Yoo reference expressly teaches the first data pulses have a width ($T_d + T_{ad}$) greater than the width ($T_d - T_{ad}$) of the second data pulses.

14. Applicant's argument, see page 10, lines 11-14 of the amendment filed on 6/22/04, with respect to the Kang reference, has been fully considered but it is not persuasive because as discussed in the detailed rejection above, the Kang reference expressly teaches the first data pulses (41, 45) have a width greater than the width of the second data pulses (42, 46). See fig. 5, last waveform.

15. Applicant's argument, see page 10, last 3 lines of the amendment filed on 6/22/04, with respect to dependent claims 23 and 27, has been fully considered but it is not persuasive because as discussed in the detailed rejection above, the Yoo and Kang references teaches the first data pulses having a first logic value "1 or HIGH" and the second data pulses having a second logic value "0 or LOW".

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

Art Unit: 2673


MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy H. Nguyen whose telephone number is (703) 306-5422. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached at (703) 305-4938. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JHN
September 16, 2004


Jimmy H. Nguyen
Examiner
Art Unit: 2673